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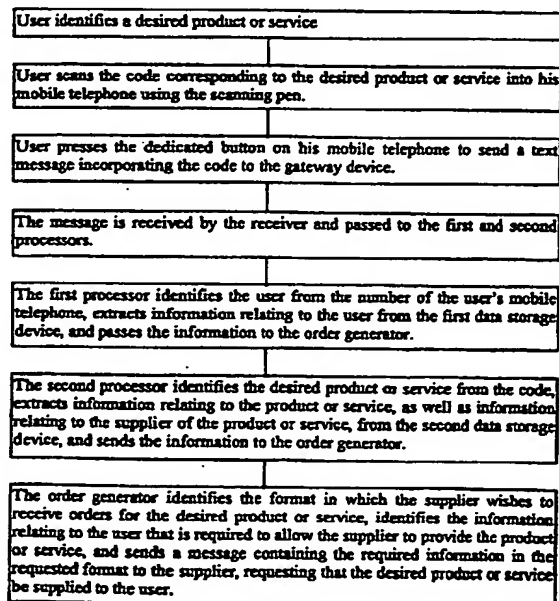H4L LDPPX
G4A AUXF

(56) Documents Cited
GB 2352856 A   WO 2001/043464 A
WO 2000/057332 A   WO 1999/067938 A
WO 1998/028900 A   US 4897867 A
US 4797913 A

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(54) Abstract Title
Improvements in or relating to communication devices

(57) A gateway device, comprising: a receiver to receive an incoming message containing at least identifying information specific to a user and a code specific to a product or service; a first processor to identify the user from the identifying information; a second processor to identify a supplier of the product or service from the code; and an order generator to send an outgoing message to the supplier of the product or service, the outgoing message containing one or more details of the user. The receiver may be connected to a mobile telephone network so that incoming messages may be text messages; e-mail messages are an alternative. The outgoing messages can be text messages, e-mail or postal mail. Typical applications include ordering products to be sent to a different address, ordering copies of articles from publishers, purchasing telephone ring tones, voting in elections, entering competitions and joining societies, the facility being available for the costs to be added to the subscriber telephone account. The telephone handset may be equipped with a scanning pen to read and import bar codes from product catalogues; also described are inputs involving other forms of scanner or magnetic reader, RF transponder, or the provision of a stylus co-operating with a touch-sensitive screen.

Figure 3

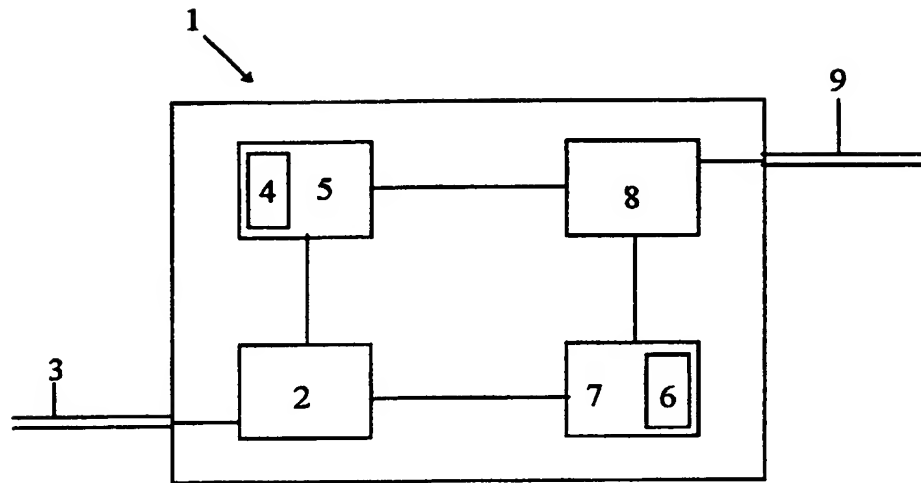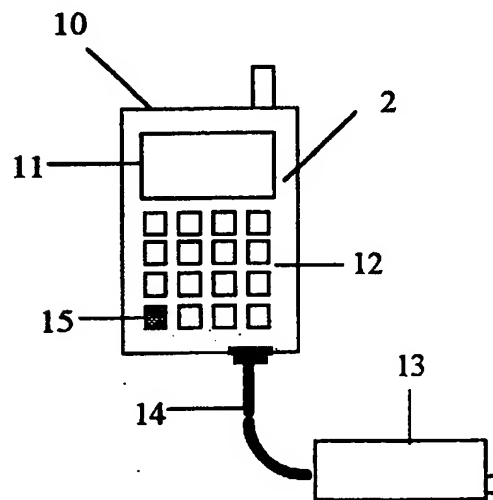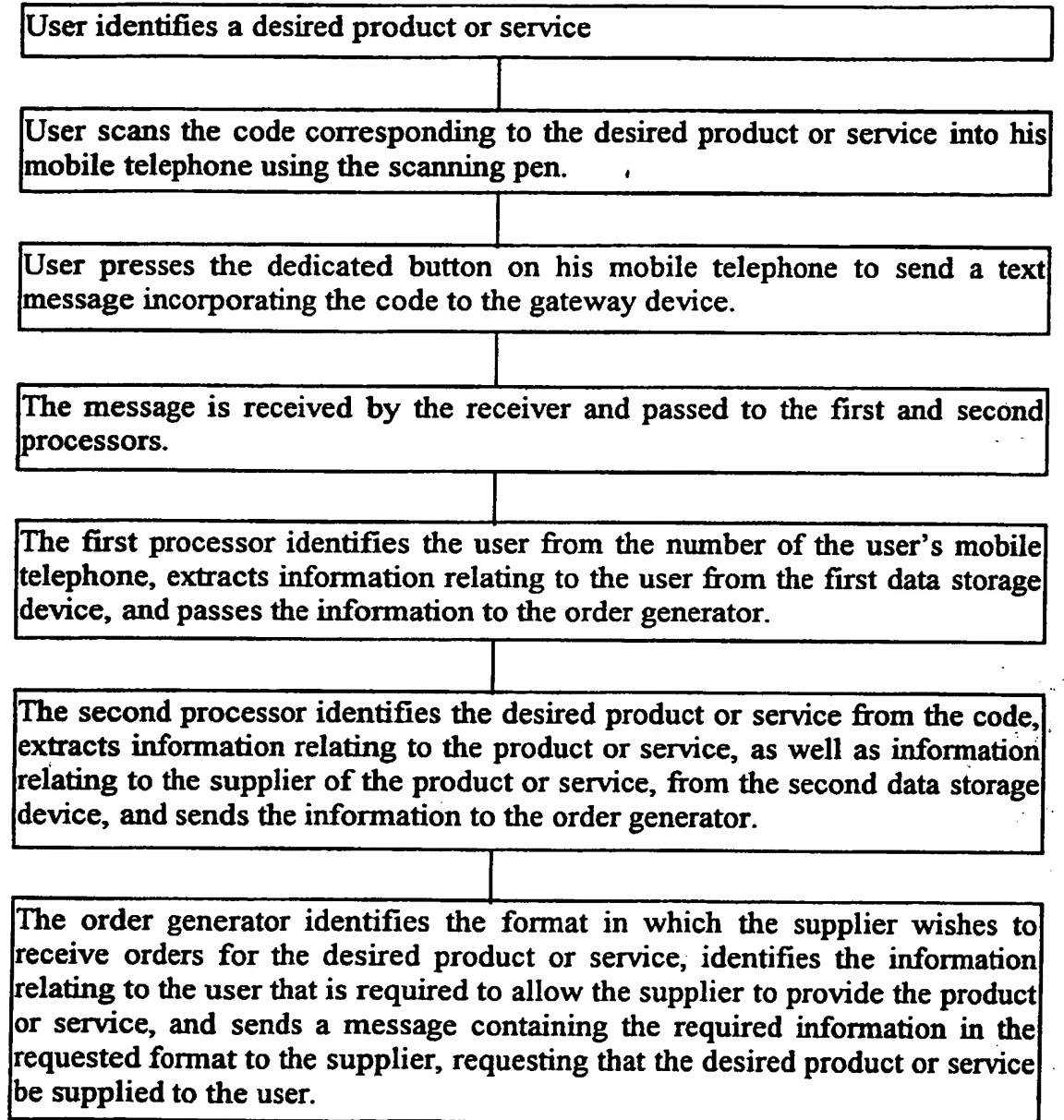| |
|---|
| User identifies a desired product or service |

User scans the code corresponding to the desired product or service into his mobile telephone using the scanning pen.

User presses the dedicated button on his mobile telephone to send a text message incorporating the code to the gateway device.

The message is received by the receiver and passed to the first and second processors.

The first processor identifies the user from the number of the user's mobile telephone, extracts information relating to the user from the first data storage device, and passes the information to the order generator.

The second processor identifies the desired product or service from the code, extracts information relating to the product or service, as well as information relating to the supplier of the product or service, from the second data storage device, and sends the information to the order generator.

The order generator identifies the format in which the supplier wishes to receive orders for the desired product or service, identifies the information relating to the user that is required to allow the supplier to provide the product or service, and sends a message containing the required information in the requested format to the supplier, requesting that the desired product or service be supplied to the user.

GB 2 375 265 A

Figure 1

Figure 2

Figure 3

User identifies a desired product or service

User scans the code corresponding to the desired product or service into his mobile telephone using the scanning pen.

User presses the dedicated button on his mobile telephone to send a text message incorporating the code to the gateway device.

The message is received by the receiver and passed to the first and second processors.

The first processor identifies the user from the number of the user's mobile telephone, extracts information relating to the user from the first data storage device, and passes the information to the order generator.

The second processor identifies the desired product or service from the code, extracts information relating to the product or service, as well as information relating to the supplier of the product or service, from the second data storage device, and sends the information to the order generator.

The order generator identifies the format in which the supplier wishes to receive orders for the desired product or service, identifies the information relating to the user that is required to allow the supplier to provide the product or service, and sends a message containing the required information in the requested format to the supplier, requesting that the desired product or service be supplied to the user.

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"Improvements in or Relating to Communication Devices"

THIS INVENTION relates to improvements in or relating to communication devices, and in particular to a gateway device for allowing users of mobile telephones to order products and/or services quickly and efficiently.

The sending of SMS (Short Messaging Service) text messages from mobile telephones has become enormously popular in recent years, and it has been estimated that around 60 billion text messages a year are sent from mobile telephones in the UK alone. The sending of text messages is cheap, quick and simple, and is less likely to disturb the recipient of the text message than a telephone call.

Businesses, suppliers and advertisers are constantly seeking new and efficient ways to supply products and/or services to consumers, and clearly the easier it is for a consumer to place an order for a product or a service the more likely the consumer is to place an order.

It is an object of the present invention to provide a method of utilising the popularity, cheapness and simplicity of sending text messages from mobile telephones to provide an advantageous method of ordering goods and/or services.

It is a further object of the present invention to provide a telephone handset that facilitates the ordering of goods and/or services by the above method.

Accordingly, one aspect of the present invention provides a gateway device, comprising: a receiver to receive an incoming message containing at least identifying information specific to a user and a code specific to a product or service; a first processor to identify the user from the identifying information; a second processor to identify a supplier of the product or service from the code; and an order generator to send an outgoing message to the supplier of the product or service, the outgoing message containing one or more details of the user.

Advantageously, the gateway device further comprises a first data storage device to store details of users and the identifying information.

Preferably, the first processor is operable to extract at least some of a user's details from the first data storage device and to transmit the extracted details to the order generator.

Conveniently, the gateway device further comprises a second data storage device to store the code and information relating to a supplier of the product or service.

Advantageously, the second processor is operable to extract at least some of the information relating to the supplier from the second data storage device.

Preferably, the second data storage device stores information relating to the product or service.

Conveniently, the gateway device is operable to receive an incoming message containing a plurality of codes, to identify the respective suppliers of each of the products or services to which the codes are specific, and to send individual outgoing messages to each of the identified suppliers.

Advantageously, the receiver comprises means to receive text messages transmitted by a mobile telephone.

Preferably, the receiver comprises a connection to a mobile telephone network.

Conveniently, the incoming message is a text message transmitted by a mobile telephone, and wherein the identifying information is the telephone number of the mobile telephone.

Advantageously, the identifying information comprises an identification code that is specific to the user.

Preferably, the receiver comprises means to receive e-mails.

Conveniently, the receiver comprises a connection to a communications network.

Advantageously, the order generator comprises means to send e-mails.

Preferably, the order generator comprises a connection to a communications network.

Conveniently, the order generator comprises means to generate postal letters.

Advantageously, the order generator comprises means to send text messages to a mobile telephone.

Preferably, the order generator comprises a connection to a mobile telephone network.

Conveniently, information regarding the manner in which the user is to receive the product or service is contained in the incoming message.

Advantageously, the gateway device is a server.

Preferably, the first and second processors are the same processor.

Another aspect of the present invention provides a method of facilitating the ordering of a product or service identified by a code, the method comprising the steps of: receiving an incoming message containing at least identifying information specific to a user and a code specific to the product or service; identifying the user from the identifying information; identifying a supplier of the product or service from the code; and sending an outgoing message to the supplier of the product or service, the outgoing message containing one or more details of the user.

Conveniently, the method further comprises the steps of: providing a first data storage device storing user details and the identifying information; extracting at least some of the details relating to the user from the first data storage device; and incorporating the extracted details in the outgoing message.

Advantageously, the method further comprises the step of storing details relating to a plurality of further users and their respective identifying information in the first data storage device.

Preferably, the method further comprises the steps of: providing a second data storage device storing information relating to the supplier of the product or service; and extracting at least some of the information relating to the product or service from the second data storage device.

Conveniently, the method further comprises the step of storing information relating to the product or service in the second data storage device.

Advantageously, the step of receiving an incoming message comprises the step of receiving an incoming message containing a plurality of codes, the method further comprising the steps of: identifying the respective suppliers of each of the products or services to which the codes are specific; and sending individual outgoing messages to each of the identified suppliers.

Preferably, the step of receiving an incoming message comprises the step of receiving a text message transmitted by a mobile telephone.

Conveniently, the incoming message is a text message transmitted by a mobile telephone, and wherein the identifying information is the telephone number of the mobile telephone.

Advantageously, the identifying information comprises an identification code that is specific to the user.

Preferably, the step of receiving an incoming message comprises the step of receiving an e-mail.

Conveniently, the step of sending an outgoing message comprises the step of sending an e-mail.

Advantageously, the step of sending an outgoing message comprises the step of sending a letter.

Preferably, the step of sending an outgoing message comprises the step of sending a text message to a mobile telephone.

Conveniently, information regarding the manner in which the user is to receive the product or service is contained in the incoming message.

Advantageously, the steps of the method are performed by a server.

Preferably, the steps of identifying the user from the identifying information and identifying the supplier of the product or service from the code are carried out by the same processor.

A further aspect of the present invention provides a telephone handset comprising means to capture a code and store the code in a memory of the handset.

Conveniently, the means to capture a code are provided integrally with the telephone handset.

Alternatively, the means to capture a code are connected to the telephone handset.

Alternatively, the means to capture a code are operable to communicate wirelessly with the telephone handset.

Advantageously, the means to capture a code comprises a scanner.

Preferably, the means to capture a code comprises a charge coupled device.

Conveniently, the means to capture a code is operable to read a magnetic strip.

Advantageously, the means to capture a code is operable to interrogate a transponder.

Preferably, the handset is operable to send a message incorporating a code captured by the means to capture a code to a gateway device according to the above.

Another aspect of the present invention provides an electronic commerce system comprising: a plurality of portable communication devices; at least one gateway device; and a supplier communication device, wherein: each of the portable communication devices is operable to transmit a first message to the at least one gateway device, the first message containing at least identification

information specific to a user and a code specific to a product or service; and the gateway device is operable to send a second message to the supplier communication device, the second message containing one or more details of the user.

In order that the present invention may be more readily understood, embodiments thereof will now be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 is a schematic representation of the architecture of a gateway device embodying the present invention;

Figure 2 is a schematic representation of a telephone handset embodying the present invention; and

Figure 3 is a flowchart representing a method embodying the present invention of ordering a product or service.

Turning to Figure 1, a gateway device 1 embodying the present invention is shown. Preferably, the gateway device 1 comprises a wireless communication server or other computation device.

The gateway device 1 comprises receiver 2 operable to receive incoming messages. In a preferred embodiment of the present invention, incoming messages received by the gateway device 1 comprise SMS text messages sent by mobile telephones, and in this embodiment the gateway device 1 requires a connection 3 to a base station or cell of a mobile telecommunications network. In this case, the receiver 2 may comprise an interface card which is operable to

interpret messages received from the connection 3 to the mobile telecommunications network.

The gateway device 1 of the present invention is not limited to use with incoming messages received from mobile telephones, and may receive messages from personal digital assistants (PDA's), palmtop computers, pagers and any other device having an appropriate communication facility.

The gateway device 1 further comprises a first data storage device 4, in which details of a plurality of users are stored. The first data storage device 4 comprises a RAM, ROM, CD-ROM, DVD, hard drive or other data storage means. These details may include, but are not limited to, the names, postal addresses, e-mail addresses, mobile telephone numbers and credit card details of the respective users.

The gateway device 1 also comprises a first processor 5, the information held in the first data storage device 4 being accessible by the first processor 5. Incoming messages received by the gateway device 1 contain the text of a SMS text message and identifying information, which identifying information is unique to an individual user. Typically, for an SMS text message, the identifying information is the user's mobile telephone number.

On receipt of a new message by the receiver 2, the first processor 5 extracts the identifying information contained in the new message and identifies the user to which the identifying information relates. The first processor 5 then requests data corresponding to the identified user from the first data storage device 4 by sending the identifying information to the first data storage device 4 which is used as a look-up table and which returns the data held on the first data storage means 4 relating to the identified user to the

first processor 5 for use thereby. Some or all of the data corresponding to the user stored in the first data storage device 4 may be retrieved by the first processor 5.

The gateway device 1 further comprises a second data storage device 6, in which information relating to a plurality of products or services, together with an individual code associated with each product or service, is stored. Information relating to suppliers of the respective products or services is also stored in the second data storage device 6, for instance the names, addresses, telephone numbers, facsimile numbers and e-mail addresses of the product suppliers or service providers.

A second processor 7 is also provided in the gateway device 1, and the information stored in the second data storage device 6 is accessible by the second processor 7. Incoming messages received by the receiver 2 include a code, which is specific to a particular product or service. The second processor 7 extracts this code and requests data corresponding to the product or service identified thereby by sending the code to the second data storage device 6 which is used as a further look-up table. The second data storage device returns data corresponding to the product or service identified by the code to the second processor 7.

In a preferred embodiment of the present invention, the only data relating to each product or service that is held in the second storage device 7 is details of the supplier of that product or service.

The gateway device 1 also includes an order generator 8 comprising an interface card, which is operable to receive instructions and information from the first and second processors 5, 7. The interface card is operable to compile

and send messages to the suppliers of each of the products or services about which information is stored in the second data storage device 6.

Once information corresponding to a user has been retrieved from the first data storage device 4 by the first processor 5 and information corresponding to a product or service defined by the code and a supplier of the product or service has been retrieved from the second data storage device 6 by the second processor 7, this information is passed to the order generator 8. The order generator 8 then generates and sends a message to the supplier containing the information corresponding to the user.

Returning to the above example in which the only information relating to a product or service held in the second data storage device 7 relates to the supplier of the product or service, this information allows the order generator to pass the code contained in the incoming message on to the appropriate supplier, along with details relating to the user. The supplier will have a separate database or look-up table to relate the code to the required product or service, and will then be in possession of all of the information necessary to provide the product or service to the user.

Alternatively, the second data storage device 7 may contain further information relating to a particular product or service, for instance a description of the product or service, and this further information may be retrieved from the second data storage device 7 by the second processor 6 and passed to the order generator 8 for incorporation into the outgoing message to the appropriate supplier.

The manner in which the message compiled by the order generator 8 is transmitted to the supplier of the product or service can vary, and in a preferred

embodiment of the present invention is dictated by the manner in which the supplier has indicated that it would prefer to receive such instructions. For example, the order generator 8 may send an e-mail to the supplier (in which case the order generator comprises a modem or other Internet connection, or is otherwise capable of sending e-mails), may send a text message to the supplier (in which case the order generator 8 comprises a connection 9 to a telephone network), may send a letter to the supplier (in which case the order generator 8 comprises means to print a letter and a label for an envelope into which the letter is to be placed), and so on. It will be appreciated that there are many and diverse ways in which the order generator 8 may communicate with a supplier, and these means are not limited to those described above.

The gateway device 1 may receive incoming messages in forms other than text messages, for example by e-mail, and a skilled person will appreciate that the receiver 2 will be equipped with appropriate hardware and connections to receive and interpret the incoming messages.

Use of the gateway device 1 in the ordering of a product or service will now be described. In order to be able to place an order through the gateway device 1, a user must first have made available or registered his or her details for storage on the gateway device 1 through their telecommunications service provider or directly. As discussed above, these details are stored in the first data storage device 4 of the gateway device 1.

Suppliers of products or services who wish to receive orders through the gateway device 1 must also make their details available for storage on the gateway device 1, and must then co-operate with the operator of the gateway device 1 to allocate a unique code to each product or service that the supplier offers. Preferably, the gateway device 1 or the operator of the gateway device 1

maintains a list of codes that have been allocated, to ensure that a single code is not allocated to more than one product or service.

Once the supplier is in possession of the code for a particular product or service, this code is displayed in the supplier's advertising material relating to that product or service. For instance, the code may appear in magazine advertisements, catalogues, television or radio advertisements, packaging, posters and so on.

Upon learning of a product or service that the user wishes to purchase, the user must send a message to the gateway device 1 containing the code corresponding to that product or service. In an advantageous embodiment of the present invention, this message is sent as part of a text message from the user's mobile telephone, and the following discussion will concentrate on this embodiment of the invention. However, it will be understood that the present invention is not limited to this method of sending messages to the gateway device 1, and that several other methods, for instance e-mail, may be employed.

Returning to the present example, the user may send a text message from his or her mobile telephone to the gateway device 1, the text message including the code corresponding to the product or service in the text message. A telephone number of the gateway device 1 is preferably stored in a memory of the user's mobile telephone, and this allows the user to send a text message to the gateway device 1 quickly and simply.

Upon receipt of the user's message, the gateway device 1 passes the message to the first processor 5, which reads the message in search of information which will allow the first processor 5 to identify the user. Almost all text messages include the telephone number of the mobile telephone from

which the message has been sent, and in a preferred version of the present invention it is this information that is employed to identify the user. Clearly, for this to be possible the mobile telephone number of the user must be known to the first processor 5.

The identifying information is not limited to the user's telephone number, and may comprise a unique number (e.g. a PIN number) that the user includes in the text message to identify him or herself. The requirement to enter a PIN number to place an order through the gateway device 1 adds valuable extra security to the ordering process. If an unauthorised party (e.g. an individual who has stolen the user's mobile telephone) attempts to place an order through the gateway device 1 using the mobile telephone, the unauthorised party will not have access to the user's PIN number and will not be able to include the PIN number in the message to the gateway device 1.

The gateway device 1 will not process the incoming message sent by the unauthorised party, as the required PIN number is not present therein, and the gateway device 1 may additionally generate and send messages alerting the user or the police that an unauthorised attempt has been made to order a product or service with the user's mobile telephone.

The inclusion of a PIN number to identify the user, rather than using the telephone number of the device from which an incoming message originates, also confers the benefit of allowing users whose details are held by the gateway device 1 to place orders for products and services from any appropriate communication device, and not just from his or her own communication device.

Upon identification of the user by the first processor 5 using the first look-up table, information relating to the user is extracted from the first data storage device 4 by the first processor 5.

The user's message is also passed to the second processor 7, which reads the message in search of a code identifying a product or service. If such a code cannot be located in the incoming message, the second processor 7 may instruct the order generator 8 to send a text message back to the user's mobile telephone, informing the user that his or her request has not been successfully processed.

Upon successful identification of a code corresponding to a product or service by the second processor 7, the second processor 7 matches the code with a product or service using the second look-up table, extracts information relating to that product or service (for instance the nature of the product or service) from the second data storage device 6, as well as information relating to the supplier of the product or service. This information is passed by the second processor 7 to the order generator 8.

Upon receipt of the necessary information from the first and second processor 5, 7, the order generator 8 generates a message to the supplier of the product or service identified by the code contained in the user's message. As discussed above, the message to the supplier may be sent by any one of a number of different methods. The message sent by the order generator 8 identifies the product or service that has been requested by the user, and also includes sufficient information about the user to allow the supplier to provide the user with the requested product or service. For instance, if the user has requested delivery of a book, the user's name and address are all that need be required to the supplier. Alternatively, if the user has requested that electronic

information be transmitted to him by e-mail, the user's e-mail address is the only information that the supplier will require. When identifying a product or service to the operator of the gateway device 1, the supplier will identify the minimum of information relating to the user that will be required to successfully provide that product or service to the user.

When the order generator 8 sends a message to the supplier requesting provision of the product or service to the user, the order generator 8 may also send a message to the user confirming that his or request has been successfully processed. That confirmation may be sent directly to the user using the contact information provided to the supplier or may be effected through the gateway device 1.

In an advantageous embodiment of the present invention, the user may request that a product or service be delivered to an entity other than the user. In this embodiment, the user must identify in the message sent to the gateway device 1 to whom the product or service is to be supplied. In order to achieve this, the user may supply information regarding one or several entities to the gateway device 1 at an earlier time. For instance, a user may consider that he is likely to wish to order products or services for 1) his company, 2) his wife and 3) his mother. In this case, the user may send the names, addresses etc. of these entities to the gateway device 1 or to the operator of the gateway device 1, and this information will be stored the first data storage device 4.

At a later date, if the user wishes to order, for example, some stationery for his company, the user sends a text message to the gateway device 1 containing a code corresponding to the required stationery, and also including a string of text informing the gateway device 1 that the stationery is to be delivered to his company. For instance, the text message may include the text

"group 1". On receipt of this incoming message, the first processor 5 will interpret the string of text as an instruction to extract information relating to the user's company from the data storage device 4.

In a preferred embodiment of the present invention, the gateway device 1 is operable to accept and process incoming' messages containing multiple codes, corresponding to several different products or services, and a skilled person will readily appreciate how the above-described gateway device 1 may be adapted to perform this function. In this embodiment, a user may place orders for several diverse products and services at one time, in what (for the user) is a single transaction, by sending a single message to the gateway device 1 containing the respective codes for the required products or services. In this way, the user avoids the need to contact the suppliers of each of the products or services individually, and it will be appreciated that this feature represents a rapid and user-friendly method of simultaneously placing orders for multiple products or services.

Examples of instances in which the above method of ordering goods or services may find application will now be described.

Many people wish to retain articles from newspapers or magazines for future reference, or may feel that another individual may find an article interesting. In one implementation of the present invention, a newspaper or magazine displays a unique code beside each article appearing in the newspaper or magazine. When a user reads the newspaper or magazine and decides that he would like a copy of an article, he may send a text message to the gateway device 1 including the code displayed beside that article. Upon receipt of the message, the gateway device 1 will send a message to the

publisher of the newspaper or magazine, requesting that a copy of the article be sent to the user.

The user may wish to receive a copy of the article by post or in an electronic format by e-mail, and this may be specified in the user's text message. In one embodiment, the publisher of the newspaper or magazine may display different codes relating to different modes of delivery of the article. Alternatively, the user may be able to include one of a number of possible different short strings of text in his message, which inform the gateway device 1 of the format in which the article is required.

The user may also feel that his wife will be interested in the article, and, as described above, may request that a copy be delivered to his wife by post or by e-mail.

A further example of an application of the present invention relates to sound files for mobile telephones. A supplier of different ring tones for mobile telephones may place an advert in a magazine, in which a unique code is printed beside the description of each ring tone that the supplier provides. A user wishing to purchase a ring tone for his mobile telephone may send a text message to the gateway device 1, incorporating the code corresponding to the desired ring tone. The gateway device 1 may, on receipt of the incoming message, send an e-mail to the supplier informing the supplier of the mobile telephone number of the user. This e-mail may be intercepted automatically by the supplier's server, which will then be in possession of all of the necessary information to transmit the data encoding the ring tone to the user's mobile telephone.

It will be appreciated that no human intervention is required in the purchase of a ring tone for the user's mobile telephone by the above-described method, and clearly this method is quick and efficient both for the user and the supplier.

In a further example, a code may be displayed on a poster advertising a product or service, and a user may send a text message incorporating the code to the gateway device 1 to receive more detailed information regarding the product or service, which may be delivered as a text message, an e-mail or by post.

Other examples of use of the present invention include the sending of text messages incorporating codes to vote in an election, to enter a competition, or to join a club or society.

Turning to the issue of payment, once a supplier has received an order for a product or service through the gateway device 1, the supplier may elect to charge the user for the requested product or service in the normal way. However, in one embodiment of the invention, the tariff for the product or service may be added on to the user's telephone bill. In this embodiment, the user need not worry about receiving several invoices from different suppliers for various products or services that the user has ordered through the gateway device 1, and may simply pay for all of the products or services in one simple payment.

In use of a conventional mobile telephone to send a message containing a code to the gateway device 1, the user will be required to input the code using the keypad of the mobile telephone. Clearly, if the user sends many such messages, an undesirable amount of time will be spent inputting codes in this

manner. In addition, there is a possibility that the user may inadvertently enter a code incorrectly, thereby unintentionally ordering a different (and possibly substantially more expensive) item.

Turning to Figure 2, a mobile telephone 10 embodying the present invention is shown. The mobile telephone 10 comprises a screen 11 and a keypad 12. However, the mobile telephone 10 also comprises a device for capturing codes, in the form of a scanning pen 13, which is connected to the mobile telephone 10 by a lead 14. The scanning pen 13 is operable to optically read a bar code or a string of text and pass this information to the mobile telephone 10, and may be used to scan codes corresponding to products or services that may be ordered through the gateway device 1.

It will be appreciated that this method of entering codes into the mobile telephone 10 is substantially quicker, easier and less error-prone than the manual entry of codes using the keypad 12.

The device for capturing codes need not be a scanning pen, and may comprise any other device capable of automatically reading data from a page, for instance other types of scanner or a charge coupled device (CCD). Alternatively, the device for capturing codes may be operable to read codes from a magnetic strip upon which data corresponding to a code is recorded, or from a RF transponder having data corresponding to a code stored in a memory thereof. In the latter example, the mobile telephone 10 contains a RF reader to interrogate the transponder. It will be appreciated that the device for capturing codes may take any one of a wide variety of forms.

The device for capturing codes need not be attached to the mobile telephone 10 by the lead 14, and may be attached directly to the mobile

telephone 10 or provided integrally therewith or operable to communicate wirelessly with the mobile telephone 10.

Alternatively, the device for capturing codes may be incorporated into a stylus or other device for inputting information using a touch-sensitive screen. Touch-sensitive screens, along with styli to operate the screens, are now commonly provided with PDA's and other devices, and it is envisaged that a scanner or other device for capturing codes may be contained in a stylus, along with means for transmitting a captured code to a PDA or other communication device (for instance, by infra-red transmission) for incorporation into a message to be sent to a gateway device 1.

The mobile telephone 10 further comprises a dedicated button 15 in addition to the standard buttons provided on the keypad 12. Once the user has created a text message to place an order for a product or service, pressing the dedicated button 15 causes the mobile telephone 10 to send the message to the gateway device 1. Hence, the dedicated button 15 eliminates the need for the user to manually retrieve the telephone number of the gateway device 1 from the memory of the mobile telephone 10, and it will be appreciated that, if many text messages are sent to the gateway device 1, significant amounts of time will be saved by the provision of the dedicated button 15.

Figure 3 shows a flow chart of the steps involved in the purchase of an item through the gateway device 1.

It will be understood that the present invention provides a method of ordering products or services that is quick, efficient and user-friendly, which does not require users to make lengthy telephone calls or fill in forms manually or online on a website and which allows the ordering of many diverse products

or services from several different suppliers and service providers from a single communication device in a single transaction. The present invention also provides a method of combining payment for many diverse products or services into his or her telephone bill.

In the present specification "comprises" means "includes or consists of" and "comprising" means "including or consisting of".

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS:

1.   A gateway device, comprising:

a receiver to receive an incoming message containing at least identifying information specific to a user and a code specific to a product or service;

a first processor to identify the user from the identifying information;

a second processor to identify a supplier of the product or service from the code; and

an order generator to send an outgoing message to the supplier of the product or service, the outgoing message containing one or more details of the user.

2.   A gateway device according to Claim 1, further comprising a first data storage device to store details of users and the identifying information.

3.   A gateway device according to Claim 2, wherein the first processor is operable to extract at least some of a user's details from the first data storage device and to transmit the extracted details to the order generator.

4.   A gateway device according to any preceding claim, further comprising a second data storage device to store the code and information relating to a supplier of the product or service.

5.   A gateway device according to Claim 4, wherein the second processor is operable to extract at least some of the information relating to the supplier from the second data storage device.

6.   A gateway device according to Claim 4 or 5, wherein the second data storage device stores information relating to the product or service.

7.   A gateway device according to any preceding claim, wherein the gateway device is operable to receive an incoming message containing a plurality of codes, to identify the respective suppliers of each of the products or services to which the codes are specific, and to send individual outgoing messages to each of the identified suppliers.

8.   A gateway device according to any preceding claim, wherein the receiver comprises means to receive text messages transmitted by a mobile telephone.

9.   A gateway device according to Claim 8, wherein the receiver comprises a connection to a mobile telephone network.

10.   A gateway device according to Claim 8 or 9, wherein the incoming message is a text message transmitted by a mobile telephone, and wherein the identifying information is the telephone number of the mobile telephone.

11.   A gateway device according to any one of Claims 1 to 9, wherein the identifying information comprises an identification code that is specific to the user.

12.   A gateway device according to any preceding claim, wherein the receiver comprises means to receive e-mails.

13.   A gateway device according to Claim 13, wherein the receiver comprises a connection to a communications network.

14.   A gateway device according to any preceding claim, wherein the order generator comprises means to send e-mails.

15.   A gateway device according to Claim 14, wherein the order generator comprises a connection to a communications network.

16.   A gateway device according to any preceding claim, wherein the order generator comprises means to generate postal letters.

17.   A gateway device according to any preceding claim, wherein the order generator comprises means to send text messages to a mobile telephone.

18.   A gateway device according to Claim 17, wherein the order generator comprises a connection to a mobile telephone network.

19.   A gateway device according to any preceding claim, wherein information regarding the manner in which the user is to receive the product or service is contained in the incoming message.

20.   A gateway device according to any preceding claim, wherein the gateway device is a server.

21.   A gateway device according to any preceding claim, wherein the first and second processors are the same processor.

22.   A method of facilitating the ordering of a product or service identified by a code, the method comprising the steps of:

receiving an incoming message containing at least identifying information specific to a user and a code specific to the product or service;

identifying the user from the identifying information;

identifying a supplier of the product or service from the code; and

sending an outgoing message to the supplier of the product or service, the outgoing message containing one or more details of the user.

23. A method according to Claim 21, further comprising the steps of:

providing a first data storage device storing user details and the identifying information;

extracting at least some of the details relating to the user from the first data storage device; and

incorporating the extracted details in the outgoing message.

24. A method according to Claim 23, further comprising the step of storing details relating to a plurality of further users and their respective identifying information in the first data storage device.

25. A method according to any one of Claims 22 to 24, further comprising the steps of:

providing a second data storage device storing information relating to the supplier of the product or service; and

extracting at least some of the information relating to the product or service from the second data storage device.

26. A method according to Claim 25, further comprising the step of storing information relating to the product or service in the second data storage device.

27. A method according to any one of Claims 22 to 25, wherein the step of receiving an incoming message comprises the step of receiving an incoming message containing a plurality of codes, the method further comprising the steps of:

identifying the respective suppliers of each of the products or services to which the codes are specific; and

sending individual outgoing messages to each of the identified suppliers.

28. A method according to any one of Claims 22 to 27, wherein the step of receiving an incoming message comprises the step of receiving a text message transmitted by a mobile telephone.

29. A method according to Claim 28, wherein the incoming message is a text message transmitted by a mobile telephone, and wherein the identifying information is the telephone number of the mobile telephone.

30. A method according to any one of Claims 22 to 28, wherein the identifying information comprises an identification code that is specific to the user.

31. A method according to any one of Claims 22 to 30, wherein the step of receiving an incoming message comprises the step of receiving an e-mail.

32. A method according to any one of Claims 22 to 31, wherein the step of sending an outgoing message comprises the step of sending an e-mail.

33. A method according to any one of Claims 22 to 32, wherein the step of sending an outgoing message comprises the step of sending a letter.

34.   A method according to any one of Claims 22 to 33, wherein the step of sending an outgoing message comprises the step of sending a text message to a mobile telephone.

35.   A method according to any one of Claims 22 to 34, wherein information regarding the manner in which the user is to receive the product or service is contained in the incoming message.

36.   A method according to any one of Claims 22 to 35, wherein the steps of the method are performed by a server.

37.   A method according to any one of Claims 22 to 36, wherein the steps of identifying the user from the identifying information and identifying the supplier of the product or service from the code are carried out by the same processor.

38.   A telephone handset comprising means to capture a code and store the code in a memory of the handset.

39.   A telephone handset according to Claim 38, wherein the means to capture a code are provided integrally with the telephone handset.

40.   A telephone handset according to Claim 38, wherein the means to capture a code are connected to the telephone handset.

41.   A telephone handset according to Claim 38, wherein the means to capture a code are operable to communicate wirelessly with the telephone handset.

42. A telephone handset according to any one of Claims 38 to 41, wherein the means to capture a code comprises a scanner.

43. A telephone handset according to any one of Claims 38 to 42, wherein the means to capture a code comprises a charge couple device.

44. A telephone handset according to any one of Claims 38 to 43, wherein the means to capture a code is operable to read a magnetic strip.

45. A telephone handset according to any one of Claims 38 to 44, wherein the means to capture a code is operable to interrogate a transponder.

46. A telephone handset according to any one of Claims 38 to 45, wherein the handset is operable to send a message incorporating a code captured by the means to capture a code to a gateway device according to any one of Claims 1 to 21.

47. An electronic commerce system comprising:

a plurality of portable communication devices;

at least one gateway device; and

a supplier communication device, wherein:

each of the portable communication devices is operable to transmit a first message to the at least one gateway device, the first message containing at least identification information specific to a user and a code specific to a product or service; and

the gateway device is operable to send a second message to the supplier communication device, the second message containing one or more details of the user.

48.   A gateway device substantially as hereinbefore described, with reference to Figure 1 of the accompanying drawings.

49.   A telephone handset substantially as hereinbefore described, with reference to Figure 2 of the accompanying drawings.

50.   A method substantially as hereinbefore described, with reference to the accompanying drawings.

51.   An electronic commerce system substantially as hereinbefore described, with reference to the accompanying drawings.

52.   Any novel feature or combination of features disclosed herein.

Application No:	GB 0110899.2	**Examiner:**	Roland Whaite
Claims searched:	1 at least	**Date of search:**	11 December 2001

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Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.S): H4L (LDPC, LDPPX); G4A (AUXF)

Int Cl (Ed.7): H04Q 7/22; G06F 17/60

Other: Online: EPODOC JAPIO WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X, E	WO 01/43464A SWISSCOM MOBILE AG See especially Abstract, WPI accession number 2001-581064, and Figures 1 and 2	1 to 37, 47
X	WO 00/57332A BOLLAY see especially flow diagram of Fig 5b	1 to 7, 12 to 15, 19 to 27, 30 to 32, 35 to 37, 47
X	WO 99/67938A SWISSCOM AG see especially front page and Fig 1	1 to 37, 47
X	WO 98/28900A GENERALDIREKTION PTT see especially front page and Fig 1	1 to 37, 47
X	GB 2352856A FUJITSU LIMITED whole document relevant	1 to7, 12 to 15, 19 to 27, 30 to 32, 35 to 37 47

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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Claims searched:	1 at least	Date of search:	11 December 2001

Category	Identity of document and relevant passage	Relevant to claims
X	US 4897867 FOSTER, HIRSCHMAN & TODD see flow diagram of Figs 4, 5 and 6	1 to 7, 11, 13, 15, 19 to 27, 47
X	US 4797913 KAPLAN & HUMES see Figs 1 and 2	1 to 7, 11, 13, 15 19 to 27, 47

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